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1 December 2008

# WAIVER REQUEST AND WILDLIFE HABITAT ANALYSIS UNDER THE TOWN OF NEEDHAM'S WETLANDS PROTECTION BYLAW AND REGULATIONS CAROL ROAD AT BREWSTER DRIVE NEEDHAM, MA

#### 1.0 Introduction

The applicant, Volante Farms, is requesting a waiver under the Town of Needham's General Wetlands Protection Bylaw and Regulations for proposed activities included in the Notice of Intent for the property located at the intersection of Carol Road and Brewster Drive in Needham, MA. The application includes work within the 50 to 25 foot buffer zone which, because of the distance, fails to meet the Wildlife Habitat Performance Standards - Buffer Zone of the Town of Needham's Wetland Policy, and section 2.06(3)(b) of the Town of Needham's Wetlands Protection Regulations. The applicant is seeking relief from these performance standards with the submittal of a Wildlife Habitat Analysis for the Notice of Intent.

Note that the regulations clearly state that "The plant communities and soils of these areas, where they are composed of natural vegetation and indigenous soils"... have some higher implied higher values for wildlife habitat. In this case, we are dealing with filled soils and many dominant non-native plant species in the 50 to 25 foot buffer zone, which should be exempt from special protection under the Needham Wetland Bylaw.

The Abbreviated Notice of Resource Area Delineation (ANRAD) was accepted by the Needham Conservation Commission in the fall of 2007. This ANRAD delineated the limit of bordering vegetated wetland (BVW) on site.

On 9 and 10 October 2008, staff of the Carr Research Laboratory, Inc. inspected the site and performed a detailed Wildlife Habitat Evaluation according to the criteria listed in the Needham Wetlands Protection Regulations and using the Mass. DEP Wildlife Habitation Protection Guidance for Inland Wetlands Evaluation Forms. For each proposed disturbance within the 50 to 25 foot buffer zone, both the adjacent wetland resource area and upland buffer zone were documented using the Appendix B: Detailed Wildlife Habitat Evaluation Forms. These forms include all the necessary information required by the Needham Wetland Policy and Wetland's Protection Regulations for Wildlife Habitat Evaluations to make a determination if the soils and vegetation beyond 25 feet require special protection.

#### 2.0 Description of Areas of Impact

There are three areas where the project as designed will cause a disturbance in the 50 to 25 foot upland buffer zone. The first disturbance to the buffer zone occurs in Lot 1 above wetland flags CRL-29 and CRL-30. In this area, a small section of the proposed driveway impacts the buffer zone. The second area of disturbance is also on Lot 1 and it occurs above wetland flags CRL-48 and CRL-49. In this area the corner of a proposed house

occurs within the 50 to 25 foot buffer zone. The third area of disturbance is located on Lot 2 above wetland flags CRL-71 to CRL-73. This is another area where a portion of a proposed house and its associated grading occur within the 50 to 25 foot buffer zone.

For each area of proposed disturbance, both the adjacent wetland resource area and the upland buffer zone were evaluated using *Appendix B: Detailed Wildlife Habitat Evaluation Forms*. These forms have all the documentation of the areas including information on size, hydrology, vegetation, and wildlife habitat features.

In addition to these forms, detailed plant lists have been created for each area. These lists include all plant species observed and the food index value (FIV) of each plant, and whether or not the plant possesses any winter food value (WFV). The *Appendix B: Detailed Wildlife Habitat Evaluation Forms* and these plant lists are included with this report.

#### 2.0 Present Conditions in Buffer Zone Areas

Disturbance Area 1: 50 to 25 Foot Buffer Zone above CRL-29 and CRL-30

The disturbance in this area is a proposed driveway associated with the proposed single family home on Lot 1. This proposed driveway disturbs approximately 298 square feet of 50 to 25 foot buffer zone. This represents a relatively small percentage of the 50 to 25 foot buffer zone in that area and in the entire site. This area of disturbance is only 1.6% of the 50 to 25 foot buffer zone located on Lot 1 of the proposed project and only 1.4% of the 50 to 25 foot buffer zone on the entire project site.

The area provides only one Important Habitat Features according to the Wildlife Habitat Protection Guidance, Appendix B: Detailed Wildlife Habitat Evaluation Forms. This is "large woody debris on ground" which is one rotting fallen log. However, the area is dominated by several invasive and non-native plant species which include European buckthorn, multiflora rose, oriental bittersweet, privet hedge and garlic mustard. The area also has significant signs of human dumping with pieces of trash emerging from the filled area. Photos of this area and the adjacent wetland can be seen in Photos 1 & 2.

Disturbance Area 2: 50 to 25 Foot Buffer Zone above CRL-48 and CRL-49

The second area of disturbance is an area where a portion of a single family home is proposed for Lot 1. This area of disturbance is again relatively small in size disturbing 403 square feet of 50 to 25 foot buffer zone. This represents 2.3% of the 50 to 25 foot buffer zone for Lot 1 and 1.9% for the total 50 to 25 foot buffer zone on site.

The area provides a few Important Habitat Features which include the "important upland food plants", in this case the fox grape and the "one standing dead tree with a 6-12" dbh and it's associated "tree cavity" which was six inches in diameter. It should be noted that the cavity was only a few inches above the ground. No signs of animals using this cavity were observed. Again this area has several dominant invasive and non-native plant species. These include Norway spruce, multiflora rose, oriental bittersweet, and garlic mustard. In addition, the area also showed significant signs of dumping. Trash and fill were present in the area in significant amounts. Photos 3 and 4 show the upland and the nearby wetland.

Disturbance Area 3: 50 to 25 Foot Buffer Zone above CRL-71 to CRL-73

The third area of disturbance occurs in the 50 to 25 foot buffer zone above wetland flags CRL-71 to CRI-73. This is the largest area of disturbance that is proposed. In total, the disturbance of 50 to 25 foot buffer zone for the construction of a single family home will be 2,092 square feet. This is 54% of the 50 to 25 foot buffer zone located on Lot 2. While this is a large percentage of the buffer zone on Lot 2, the lot is much smaller than Lot 1

and has much less of the 50 to 25 foot buffer zone present. The area still only represents 9.7% of the total 25-50' buffer zone present on the entire site. This upland area is dominated by European buckthorn, non-native crab apple, multiflora rose, and oriental bittersweet in the shrub layer. In addition, garlic mustard was also dominant in some locations in the 50 to 25 foot buffer zone.

The wetland area offers two Important Wildlife Habitat Features; "dense herbaceous cover" and "large woody debris on ground." The dense cover comes from the large amount of sensitive fern in the area, but note that (1) it already has less dense coverage of the ground layer due to cooler weather triggering plant die back and (2) this fern has a Wildlife Food Index Value of zero. The large woody debris consisted of two rotting fallen logs. Once again there is significant invasion of non-native plant species. European buckthorn and multiflora rose are again dominant in the area, and Oriental bittersweet, garlic mustard and bittersweet nightshade are also just below the wetland line. There is also trash evident in the area, but not in as great amounts as in the previous two areas. However, the soils in the wetland are dredged from the man-made pond which is 65 feet on average from the wetland border. When the pond was excavated, the soil was placed upgradient. Therefore, much of the buffer zone is actually filled with the excavated soils from the pond construction. Photos of this area and the adjacent wetland area can be seen in Photos 5 & 6.

#### 3.0 Description of Impacts

After reviewing the three areas of proposed alteration in the 50 to 25 foot buffer zone, the proposed work taking place 50 to 25 feet from the wetlands not cause a significant decrease in the buffer zone's function as an important resource area because of the past history of site use, the non-indigenous soils, and the dominance of the non-native trees, shrubs and herbs. The three areas make up a relatively small percentage (12.9%) of the total 50 to 25 foot buffer zone on site. This disturbance will not drastically alter the conditions in the buffer zone or its functions of providing significant wildlife habitat and protection to adjacent bordering vegetated wetlands.

All of the areas to be disturbed have vegetational communities dominated by non-native and invasive plant species. In addition, all of the areas have trash and evidence of human disturbance and dumping. These two facts greatly lower any wildlife habitat value the area can serve. This combined with the fact that according to the Wildlife Habitat Protection Guidance, Appendix B: Detailed Wildlife Habitat Evaluation Forms there are only a very small number of Important Wildlife Habitat Features present in any of the areas, leads us to conclude that none of the three areas offer any significant Wildlife Habitat.

The project has been designed to be as far removed from any BVW as practical and has tried to maintain as much buffer zone as possible. The project as designed proposes no alteration to any BVW nor to any 0-25' buffer zone. Note that denial of the driveway at the standard design of 12 feet wide cannot be moved entirely outside the 50 foot buffer zone, and thus denial of the driveway could constitute a "taking" of the land by the Town of Needham.

#### 4.0 Measures of Mitigation

If the Commission deems necessary measures of mitigation, these could be included for the proposed project. Possible options include (1) removal of invasive species and their long term control in the 50 to 25 foot buffer zone (2) planting native tree and shrub species possessing high food values, and (3) trash removal in the 50 to 25 foot buffer zone. Any of these would help to increase the wildlife habitat value of the buffer zone. In addition, any large woody debris on the ground, such as fallen trees, which do pose significant wildlife habitat features, could be moved from the areas of alteration to other areas of the buffer zone prior to the commencement of construction. This would ensure that no Important Wildlife Habitat Features are destroyed or damaged with the proposed project.

#### 5.0 Summary and Conclusions

In conclusion, it is our professional opinion that this Waiver Request be granted because the buffer zone to be impacted does not serve as any significant wildlife habitat or other wetland value. The vegetational community is non-natural and made up of many invasive plant species, and the soils in many locations are disturbed and show signs of human dumping. We believe that this Wildlife Habitat Assessment demonstrates that the resource area of the 50 to 25 foot buffer zone in this case "does not protect the public interests" stated in the Needham Wetland Protection Bylaw.

In addition, 'strict compliance would cause an economic hardship greater in magnitude than the public interests served." The project as designed has tried to maintain as much 50 to 25 foot buffer zone as possible. The design has tried to minimize any disturbance to the greatest extend practicable. Disturbance Area 1 is the proposed driveway of minimum allowed width, and its location could not be changed to provide a lesser disturbance to the buffer zone. Disturbance Areas 2 & 3 could perhaps have the house footprints moved to provide a lesser disturbance. However, Lot 2 does not have much more area to work with and considering Zoning Bylaws and regulations moving the house may not be feasible. There are no crastically different alternative options that are available. By denying the project entirely an economic hardship would fall on the land owner.

Furthermore, the mitigation measures in the section above would serve the public interests by improving the buffer zone on site. By removing the non-native and invasive plant species and replacing them with high value mative plantings would greatly enhance the wildlife habitat potential of the buffer zone. The trash removal would also be a substantial improvement over existing conditions. Furthermore, by removing wildlife habitat features, such as large fallen logs, and placing those features in other areas of the buffer zone, any loss of those features through the proposed disturbances would be avoided

Given the non-native, invasive plant community and dumped and filled soils, we think that denying the project would not selve a substantial public interest and would also serve as an economic hardship for the landowner. It is our opinion that the Waiver Request should therefore be granted by the Commission. A far larger public service would be accomplished in improving the quality of the buffer zone on site through the mitigation measures of invasive species removal and control and native species plantings with high food values. If there are any questions about this Wildlife Habitat Evaluation, please do not hesitate to contact us.

Environmental Biologist

Carr Research Laboratory, Inc.

by Jam H. Com

Jerome B. Cerr, Ph.D.

Telmatologist (Wetland Scientist) &

Certified in Habitat Evaluation Procedures

U.S. FISH AND WILDLIFE SERVICE

This is to certify that she tan tan immensially completed the requirements of the ceurse lo

TIMEITAT EVALUATION PROCEDURES

#### Table 1. Plant Identification - Flags CRL 29 and 30.

Upland Plant Community Between 25 Foot Zone and 50 Foot Zone

Wetland Plant Community

(I)

Tree Layer = red maple (Acer rubrum) (24)

Norway maple (Acer platanoides) (24) (I) white ash (Fraxinus Americana) (10) crab apple (Malus ioensis) (23)

red maple (Acer rubrum) (24) (D)

Shrub Layer = European buckthorn (Rhamnus frangula)(3)

(I)(D)

crab apple (Malus ioensis) (11) (D)

multiflora rose (*Rosa multiflora*) (3\*) (I) (D) Norway maple (*Acer platanoides*) (16) (I)

white ash (Fraxinus Americana) (2)
Tartarian honeysuckle (Lonicera tatarica) (4) (I)
privet hedge (Ligustrum sp.) (T) (D) (I)
nanny-berry (Viburnum lentago)
American red raspberry (Rubus idaeus) (42\*)
oriental bittersweet (Celastrus orbiculata) (0)
(I) (D)

American bittersweet (Celastrus scandens) (0)

European buckthorn(*Rhamnus frangula*) (3) (I) (D) highbush blueberry (*Vaccinium corymbosum*) (34) (D) poison ivy (*Toxicodendron radicans*) (18\*) privet hedge (on wetland edge) (*Ligustrum sp.*) (T)

Herb Layer = spinulose woodfern (*Dryopteris spinulosa*) (0) wild onion (*Allium canadense*) (0)

yellow wood sorrel (*Oxalis europaea*) (2) kidney-leaf white violet (*Viola renifolia*)(1) D) non-sphagnum moss (*Bryopsida sp.*) (0)

garlic mustard (Alliaria petiolata) (0) (I)

celandine (*Chelidonium majus*) (0) hydrophilic grass (*Gramineae sp.*) (1) kidney-leaf white violet (*Viola renifolia*) (1) (D)

NOTE: Following each plant species common name is the scientific name and Wildlife Food Index Value (FIV). FIVs are calculated and taken from Martin, A.C., et al, American Wildlife & Plants - A Guide to Wildlife Food Habits, Dover Publications, Inc. New York, 1951 and DeGraff, M. D., Trees Shrubs and Vines for Attracting Birds, Second Edition, Revised, University Press of New England, Lebanon, NH, 2002. An asterisk (\*) following a FIV indicates winter food value. An (I) following a plant name indicates the plant is an invasive or non-native species. A (D) following a plant name indicates the species was dominant in the respective layer.

#### Table 2. Plant Identification - Flags CRL 48 and 49.

Upland Plant Community Between 25 Foot Zone and 50 Foot Zone Tree Layer = red maple (*Acer rubrum*) (24)

Wetland Plant Community

Norway spruce (*Picea abies*) (20) (I) (D)

red maple (Acer rubrum) (24) (D) yellow birch (Betula alleghaniensis) (24) (D)

crab apple (Malus ioensis) (23) (I)

Shrub Layer = European buckthorn (*Rhamnus frangula*)(3)(I) crab apple (*Malus ioensis*) (I1) (I) (D) multiflora rose (*Rosa multiflora*) (3\*) (I) (D) American bittersweet (*Celastrus scandens*) (0)

European buckthorn (*Rhamnus frangula*)(3)(I) common buckthorn (*Rhamnus cathartica*) (3) poison ivy (*Toxicodendron radicans*) (18\*) highbush blueberry (*Vaccinium corymbosum*) (34)

oriental bittersweet (*Celastrus orbiculata*) (0) (I) (D)

multiflora rose (*Rosa multiflora*) (3\*) (I)

poison ivy (Toxicodendron radicans) (18\*)

fox grape (Vitis labrusca) (41) swamp azalea (Rhododendron viscosum) (0)

fox grape (Vitis labrusca) (41) American red raspberry (Rubus idaeus) (42\*)

black birch (Betula lenta) (7)

Herb Layer = bristly dewberry (Rubus hispidus) (33) (D)
wild onion (Allium canadense) (0)
bittersweet nightshade (Solanum dulcamara) (1) (I)
garlic mustard (Alliaria petiolata) (0) (I)
sensitive fern (Onoclea sensibilis) (0)
upland grass (Gramineae sp.)
Virginia creeper (Parthenocissus

Interrupted fern (Osmunda claytoniana) (0) hydrophilic grass (Gramineae sp.) kidney-leaf white violet (Viola renifolia)(1) jewelweed (Impatiens capensis) (2) skunk cabbage (Symplocarpus foetidus) (1) late goldenrod (Solidago gigantea) (2)

Virginia creeper (Parthenocissus quinquefolia) (10) non-sphagnum moss (Bryopsida sp.) (0) white avens (Geum canadense) (0) kidney-leaf white violet (Viola renifolia)(1) henbit (Lamium amplexicaule) (0)

non-sphagnum moss (Bryopsida sp.) (0) white avens (Geum canadense) (0) spinulose woodfern (Dryopteris spinulosa) (0) Canada goldenrod (Solidago Canadensis) (2) garlic mustard (Alliaria petiolata) (0) (I)

NOTE: Following each plant species common name is the scientific name and Wildlife Food Index Value (FIV). FIVs are calculated and taken from Martin, A.C., et al, American Wildlife & Plants - A Guide to Wildlife Food Habits, Dover Publications, Inc. New York, 1951 and DeGraff, M. D., Trees Shrubs and Vines for Attracting Birds, Second Edition, Revised, University Press of New England, Lebanon, NH, 2002. An asterisk (\*) following a FIV indicates winter food value. An (I) following a plant name indicates the plant is an invasive or non-native species. A (D) following a plant name indicates the species was dominant in the respective layer.

#### Table 3. Plant Identification - Flags CRL -71 through 73.

late goldenrod (Solidago gigantea) (2)

Christmas fern (*Polystichum acrostichoides*) (0) spinulose woodfern (*Dryopteris spinulosa*) (0)

Upland Plant Community Between Wetland Plant Community 25 Foot Zone and 50 Foot Zone Tree Layer = red maple (Acer rubrum) (24) (D) red maple (Acer rubrum) (24)(D) quaking aspen (Populus tremula) (12\*) Shrub Layer = European buckthorn (Rhamnus frangula)(3)(I) European buckthorn (Rhamnus frangula)(3) (I) (D) crab apple (Malus ioensis) (11) arrowwood (Viburnum recognitum) (40) multiflora rose (Rosa multiflora) (3\*) (I) (D) poison ivy (Toxicodendron radicans) (18\*) white ash (Fraxinus Americana) (2) silky dogwood (Cornus amomum) (48\*) oriental bittersweet (Celastrus orbiculata) (0) (I) multiflora rose (Rosa multiflora) (3\*) (I) poison ivy (Toxicodendron radicans) (18\*) American red raspberry (Rubus idaeus) (42\*) American red raspberry (Rubus idaeus) (42\*) oriental bittersweet (Celastrus orbiculata) (0) (I) American hazelnut (Corylus Americana) (12) fox grape (Vitis labrusca) (41) white pine (Pinus strobus) (5\*) northern catalpa (Catalpa speciosa) (0) common buckthorn (Rhamnus cathartica) (3) American bittersweet (Celastrus scandens) (0) Herb Layer = celandine (Chelidonium majus) (0) sensitive fern (Onoclea sensibilis) (0) (D) Virginia Creeper (Parthenocissus quinquefolia) (10) garlic mustard (Alliaria petiolata) (0) bittersweet nightshade (Solanum dulcamara) (1) yellow wood sorrel (Oxalis europaea) (2) royal fern (Osmunda regalis) (0) jewelweed (Impatiens capensis) (2) sensitive fern (Onoclea sensibilis) (0) (D) Canada goldenrod (Solidago Canadensis) (2) Solomon's seal (Polygonatum sp.) (0) common mugwort (Artemisia vulgaris) (0) wild onion (Allium canadense) (0) white avens (Geum canadense) (0) upland grass (Gramineae sp.) common milkweed (Asclepias syriaca) (0) garlic mustard (Alliaria petiolata) (0) (I) Pennsylvania smartweed (Polygonum pensylvanicum) yellow wood sorrel (Oxalis europaea) (2) common dodder (Cuscuta gronovii) (0) Joe-Pye-weed (Eupatorium dubium) (T) hydrophilic grass (Gramineae sp.) (1) enchanter's nightshade (Circaea quadrisulcata) (1) Joe-Pye weed (Eupatorium dubium) (T) common milkweed (Asclepias syriaca) (0) Virginia creeper (Parthenocissus quinquefolia) (10) Canada goldenrod (Solidago Canadensis) (2) spinulose woodfern (Dryopteris spinulosa) (0) white avens (Geum canadense) (0) northern willow herb (Epilobium ciliatum) (0) bittersweet nightshade (Solanum dulcamara) (1) (I) late goldenrod (Solidago gigantea) (2) common dodder (Cuscuta gronovii) (0)

NOTE: Following each plant species common name is the scientific name and Wildlife Food Index Value (FIV). FIVs are calculated and taken from Martin, A.C., et al, American Wildlife & Plants - A Guide to Wildlife Food Habits, Dover Publications, Inc. New York, 1951 and DeGraff, M. D., Trees Shrubs and Vines for Attracting Birds, Second Edition, Revised, University Press of New England, Lebanon, NH, 2002. An asterisk (\*) following a FIV indicates winter food value. An (I) following a plant name indicates the plant is an invasive or non-native species. A (D) following a plant name indicates the species was dominant in the respective layer.



Photo 1, 25-50' buffer zone above CRL-29 & 30. Note the trash and Oriental bittersweet.

Photo 2. Adjacent weiland below CRL-29 & 30. Again note the trash.



Photo 3, 25-50° buffer zone above CRL-48 & 49. Note the Norway spruce, Oriental bittersweet, and multiflora rose.

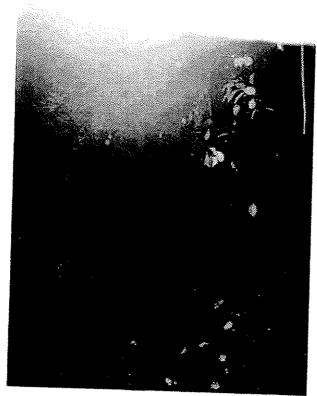


Photo 4. Adjacent wetland below CRL-48 & 49. Note the Oriental bittersweet.



Photo 5, 25-50° buffer zone above CRL-71 to 73



Photo 6. Adjacent wetland below CRL-71 to 73. Note the multiflora rose just upgradient of the wetland line and the Oriental bittersweet.



Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

#### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

#### Part 1. Summary Sheet

Project Name				
Location		· · · · · · · · · · · · · · · · · · ·		
2,793 sq ft				<u> 4/08</u>
Size of Area Being Impacted		•	Date	
Impact Areas (linear feet, squa	are feet, or acres f	or each of the imp	pact areas within th	e site)
Name	Waterbody/ Waterway	Wetland	Upland	Total Area
1. Wetland below CRL-29 & 30		0	, 1 to	0
2. Buffer Zone above CRL- 29 & 30			298 sq ft	298 sq ft
3. Wetland Below CRL-48 & 49		0		0
4. Buffer Zone above CRL- 48 & 49		· · · · · · · · · · · · · · · · · · ·	403 sq ft	403 sq ft
5. Wetland Below CRL-71 to CRL-73	<del></del>	0		0
6. Buffer Zone above CRL- 71 to CRL-73	: 	** ************************************	2,092 sq ft	2,092 sq ft
/   (U C)P(L-/ 5				
7.	. 17	··		
7. Attach Sketch map and/or pho Narrative Description of Site (a	otos of the Impact	Areas		
Attach Sketch map and/or pho	otos of the Impact a	Areas ge if necessary)		
Attach Sketch map and/or pho Narrative Description of Site (a	attach separate pa	Areas ge if necessary)		
Attach Sketch map and/or pho Namative Description of Site (a See attached namative report.	attach separate pa	Areas ge if necessary)		
Attach Sketch map and/or pho Narrative Description of Site (a See attached narrative report.	attach separate pa	Areas ge if necessary)		
Attach Sketch map and/or pho Narrative Description of Site (a See attached narrative report.	attach separate pa	Areas ge if necessary)		
Attach Sketch map and/or pho Namative Description of Site (a See attached namative report.	attach separate pa	Areas ge if necessary)		

I hereby certify that this project has been designed to avoid, minimize, and mitigate adverse effects on wildlife habitat, and that it will not, following two growing seasons of project completion and thereafter, substantially reduce its capacity to provide important wildlife habitat functions.

Jerome B. Carr, Ph.D.

Typed or Printed Name

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Signature of Wildlife Specialist (per 310 CMR 10.60 (1) (b))



### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

i.	General Information	
	Carol Road at Brewster Drive, 2 New House Lots Project Location (from NOI page 1)  1. Wetland Below CRL-29 & 30 Impact Area (number/name)  9 & 10 October 2008 Date(s) of Site Visit(s) and Data Collection Overcast, clearing skies, mid-60's Weather Conditions During Site Visit (if snow cover, include of Jerome Carr, PhD and Jamie Walker Person completing form per 310 CMR 10.60(1)(b)  The information on this data sheet is based on many signature.	lepth)  14 October 2008  Date this form was completed
11.	· · · · · · · · · · · · · · · · · · ·	sification - see instructions for full description)
A.	Classification	
1.	For Wetland Resource Areas, complete the follow	ving:
	System:	Subsystem:
	Class:	Subclass:
	Hydrology/Water Regime	
	Permanently flooded	aturated
	☐ Intermittently exposed	Temporarily flooded
	☐ Semi-permanently flot le	Intermittently flooded
	☐ Seasonally flooded	Artificially flooded
2.	For Riverfront or Bordering Land Subject to Floo Use a terrestrial classification system such a	ding Resource Areas, complete the following. s one of the two listed below:
	<ul> <li>a. "Classification of the Natural Communities of Mas Kearsley, MA DFW NHESP, Westborough, MA.</li> </ul>	seachusetts (Draft)" by Patricia C. Swaln and Jennifer B.
	<ul> <li>b. "New England Wildlife: Habitat, Natural History, a Rudis, USDA Forest Service, Northeastern Fores August 1992, 491 pages.</li> </ul>	and Distribution" by Richard M. DeGraaf and Deborah D. st Experiment Station. General Technical Report NE-108.
	Community Name	, and a second of the second o
	Vegetation Description	, · · · · · · · · · · · · · · · · · · ·
	Physical Description	



### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

	ant community)						
% Cover:	95	30 Showba (< 20')	15 Woody vines	5 Mosses	65 Herbaceous		
	pecies that compri lant species for the	se 10% or more					
Strata	Plant	Species	Strata	P	lant Speci <del>e</del> s		
Tree	red n	naple*					
Shrub	Euro	pean buckthorn*	7				
Shrub	<u>highl</u>	oush blueberry*	***************************************				
Shrub	com	non buckthorn					
Herb	kidne	ey-leaved violet*			· · · · · · · · · · · · · · · · · · ·		
<u>Herb</u>	Euro	pean buckthorn					
). Inventory (Sc	Inventory (Soils)						
	Freetown Muck		Very Poorly I				
	Soll Survey Unit						
Texture (upper p	part)	······································	Depth				
Q"			-				
Depth to Water							
	akitat Camburaa (a	omplete for all	resource areas)				
ll. Important H	abitat reatures (c						
·	habitat characteristi	cs are present, de	scribe & quantify the	em on a separate	sheet & attach.		
·	habitat characteristi	cs are present, de	scribe & quantify the	em on a separate	sheet & attach.		
If the following	habitat characteristi		·	·			
If the following	habitat characteristi		·	·			
If the following Wildlife Food Important We	habitat characteristi	d Plants (smartv Present	veeds, pondweeds ⊠ Absent	, wild rice, buln			
If the following Wildlife Food Important We	habitat characteristi etland/Aquatic Foo t	d Plants (smartv Present	veeds, pondweeds ⊠ Absent	, wild rice, buln			
If the following Wildlife Food Important We Abundan Important Up	habitat characteristi etland/Aquatic Foo t	d Plants (smartv Present d Plants (hard m Present	veeds; pondweeds  Absent ast and fruit/berry  Absent	, wild rice, buln			
If the following Wildlife Food Important We Abundan Important Up	habitat characteristic retland/Aquatic Footiand/Wetland Footiand/Wetland Footiand	d Plants (smartv Present d Plants (hard m Present	veeds; pondweeds  Absent ast and fruit/berry  Absent	, wild rice, buln			
If the following Wildlife Food Important We Abundan Important Up Abundan Shrub thicker	habitat characteristic retland/Aquatic Footiand/Wetland Footiand/Wetland Footiand	d Plants (smartv Present d Plants (hard m Present vith abundant ea Present	veeds; pondweeds  Absent ast and fruit/berry Absent rthworms (America	, wild rice, buln			



### Wildlife Habitat Protection Guidance

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rt 2. Field I	Data Form (co	ontinued)			
Number of trees	s (live or dead) > 30	)" DBH:	0		NAME OF TAXABLE PARTY.
Number (or den	isity) of Standing D	ead Trees (poter	ntial for cavities	and perches):	
	0 12-18" db				
6-12" dbh	12-18" db	h	18-24" dbin	> 24"	dbh
Number of Tree	Cavities in trunks	or limbs of:			
0	., tree swallow, saw wh			LI-1-1	
Λ					
12-18" diameter (e.	g., hooded merganser,	wood duck, commor	goldenøye, mink)	· ·-	······································
0 518" diameter (e.n.	hopded merganser, wood	d duck, comman dolds	meve, common mergi	anser, barred owl, mink	(, raccoon, fisher)
Small mammal		<b>-</b>	w	·	,
☐ Abundant	□Р	resent	Absent 🛮		
Cover/Perches	/Basking/Denning/I	Nesting Habitat			
Dense hert	paceous cover (vol	es, small mamm	als, amphibians	& reptiles)	
☑ Large wood	dy debris on the gro	ound (small man	nmals, mink, am	ohlbians & reptile	3)
Rocks, cre	vices, logs, tree roo	ots or hummocks	under water's s	urface (turtles, sr	nakes, frogs)
Rocks, crewwater's sur	vices, fallen logs, o face (turties, snake	verhanging bran es, frogs, wading	ches or hummod birds, wood duc	cks at, or within 1 k, mink, raccoon	m above the )
Rock piles,	crevices, or hollov	v logs suitable fo	r:		
otter	mink	porcupine	☐ bear	bobcat	turkey vultur
	nd standing vegetat gfisher, flycatchers			g good visibility <b>o</b> i	f open water (e.g
Depressions th	at may serve as se	easonal (vernal/a	utumnal) pools		
	_ 	resent			
Standing water	present at least pa	art of the growing	g season, suitabl	le for use by	
☐ Breeding a	mphibians	□ n	lon-breeding am	phibians (foragin	g, re-hydration)
☐ Turtles		□ F	oraging waterfo	wl	
	nmucks or mats, m nding water in sprin			gs, overhanging	or directly adjace
	[7] ₽	resent .			



### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

Important habitat character	istics (if present, describ	<u>e and quantify th</u>	em on a separate sheet)
Medium to large (> 6"), flat for spring & two-lined salan	rocks within a stream (co nanders)	over for stream s	alamenders and nesting habitat
	☐ Present		
Flat rocks and logs on bani salamanders and nesting h	ks or within exposed port abitat for dusky salaman	ions of streambe iders)	eds (cover for stream
	☐ Present		
Underwater banks of fine s	ilt and/or clay (beaver, m	ruskrat, otter)	
	☐ Present		
Undercut or overhanging b	anks (small mammals, m	nink, weasels)	
	☐ Present		
Vertical sandy banks (bank	swallow, kingfisher)		
	☐ Present		
Areas of ice-free open wat	er in winter		
	☐ Present		
Mud flats			
	☐ Present		
Exposed areas of well-dra	ined, sandy soil suitable	for turtle nesting	
	☐ Present		
Wildlife dens/nests (if pres	ent, describe & quantify	them on the bac	k of this sheet)
Turtle nesting sites			
	☐ Present		
Bank swallow colony			
	☐ Present		
Nest(s) present of	☐ Bald Eagle	☐ Osprey	Great Blue Heron
Den(s) present of	Otter	☐ Mink	☐ Beaver



### Wildlife Habitat Protection Guidance

#### Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

	Project area is within:		
	☐ 100' of beaver, mink or otter den, bank swallow	colony or turtle nesting area	
	200' of Great Blue Heron or osprey nest(s)		
	1400' of a Bald Eagle nest <sup>1</sup>		
	Emergent Wetlands (if present, describe & quantify t	hem on a separate sheet)	
	Emergent wetland vegetation at least seasonally floogreen heron, black-crowned night heron, king rail, Vi		wood duck,
	Flooded > 5 cm	Present	
	Flooded > 25 cm (pied-billed grebe)	☐ Present	
	Persistent emergent wetland vegetation at least sea (mallard, American bittern, sora, common snipe, red		
	Flooded > 5 cm	☐ Present	
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present	
	Cattail emergent wetland vegetation at least season	ally flooded during the growing se	eason
	Flooded > 5 cm (marsh wren)	☐ Present	
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present	
	Fine-leafed emergent vegetation (grasses and sedge season (common snipe, spotted sandpiper, sedge w		uring the growing
	Flooded > 5 cm	☐ Present	
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present	
IV.	Landscape Context		
Α,	Habitat Continuity (if present, describe the landsca importance for area-sensitive species)	ре context ол а separate sheet а	and its
	is the impact area part of an emergent marsh at least	1.0 acre in size?   Yes	⊠ No
	(marsh and waterbirds)	2.0 acres in size?   Yes	⊠ No
		5.0 acres in size?   Yes	⊠ No
		10.0 acres in size?  Yes	⊠ No

<sup>1400</sup> feet is the distance used by NHESP for evaluating potential disturbance Impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet. detihab.doc - 10/07



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Pa	art 2. Field Data Form (continued)					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	is the impact area part of a wetland complex at least	2.5 acres in size?		Yes	$\boxtimes$	No
	(turtles, frogs, waterfowl, mammals)	5.0 acres in size?		Yes	$\boxtimes$	No
		10.0 acres in size?		Yes	$\boxtimes$	No
		25.0 acres in size?		Yes	$\boxtimes$	No
	For upland resource areas is the impact area part	of contiguous forested	hat	itat at least		
	(forest interior nesting birds)	50 acres in size?		Yes	$\boxtimes$	No
		100 acres in size?		Yes	$\boxtimes$	No
		250 acres in size?		Yes	$\boxtimes$	No
		500 acres in size?		Yes	$\boxtimes$	No
	(grassland nesting birds)	> 1.0 acre in size?		Yes	$\boxtimes$	No
	(special habitat such as gallery floodplain forest, alder thicket, etc.)	> 1.0 acre in size?		Yes	$\boxtimes$	No
₿.	Connectivity with adjoining natural habitats					
	☐ No direct connections to adjacent areas of wild	llife habitat (little conn	ectiv	vity function)		
	Connectors numerous or impact area is embed connectivity function)	dded in a large area o	f nat	ural habitat (	(ilmit	ted
	Impact area contributes to a limited number of important for connectivity function)	connectors to adjaces	nt ar	eas of habita	at (so	omewhat
	Impact area serves as part of a sole connector connectivity function)	to adjacent areas of	hab)	t <b>at (i</b> mportan	t for	
	Impact area serves as <i>only</i> connector to adjac function)	ent areas of habitat (v	ery i	mportant for	con	inectivity
V.	Habitat Degradation (describe degradation and w	rildlife impacts on the	back	of the shee	t)	
	Evidence of significant chemical contamination	1				
	Evidence of significant levels of dumping					
	Evidence of significant erosion or sedimentation	n problems				
	☑ Significant invasion of exotic plants (e.g., purple loosestrife, <i>Phragmites</i> , glossy buckthorn)					n)
	☐ Disturbance from roads or highways	Other human d	istur	bance		
	Is the site the only resource area in the vicinity	of an otherwise deve	lope	d area		
	Note: These are not the only important habitat features that may be observed on a site. If the wildlife specialist identifies other features they should be noted in the application.					

12/02/2008 13:08

508-647-4737



#### Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands Program

#### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

#### VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
	,		
Important Upland/ Wetland Food Plants	2 highbush blueberry		no change
Large Woody Debris on Ground	3 rotting fallen logs		no change



#### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

ı.	General Information	
	Carol Road at Brewster Drive, 2 New Hous	e Lots
	Project Location (from NOI page 1) 2, 50-25' Buffer Zone above CRL-29 & 30	
	Impact Area (number/name)	
	9 & 10 October 2008 Date(s) of Site Visit(s) and Data Collection	
	Overcast, clearing skies, mid-60's	
	Weather Conditions During Site Visit (if snow cover, in	nclude depth)
	Person completing form per 310 CMR 10.60(1)(b)	14 October 2008  Date this form was completed
	Signature	i on my observations unless otherwise indicated
IJ.		Classification - see instructions for full description)
11.	ofte pescription (complete Not builder	Classification - see instructions for full description)
Α.	Classification	
1.	For Wetland Resource Areas, complete the	following:
	System:	Subsystem:
	Class:	Subclass:
	Hydrology/Water Regime	To.
	Permanently flooded	Saturated
	☐ Intermittently exposed	emporarily flooded
	Semi-permanently flooded	ntermittently flooded
	☐ Seasonally flooded	☐ Artificially flooded
2.	For Riverfront or Bordering Land Subject to Use a terrestrial classification system s	Flooding Resource Areas, complete the following. such as one of the two listed below:
	<ul> <li>a. "Classification of the Natural Communities of Kearsley, MA DFW NHESP, Westborough,</li> </ul>	of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B. MA. July 2000. ( <u>Department of Fish &amp; Game Website</u> )
	<ul> <li>b. "New England Wildlife: Habitat, Natural His Rudis, USDA Forest Service, Northeastern August 1992. 491 pages.</li> </ul>	tory, and Distribution" by Richard M. DeGraaf and Deborah D. Forest Experiment Station. General Technical Report NE-108.
	Community Name	
	Vegetation Description	
	Physical Description	CONTROL OF THE STATE OF THE STA
	1 11201001 Prophibitoti	



### Wildlife Habitat Protection Guidance

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#### Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

	% Cover:	50	65	30 Nondervises	0 Mosses	80 Herbaceous
	Plant Lists (species that comprise 10% of a dominant plant species for the strata):  Strata Plant Species  Shrub crab apple*  Shrub multiflora rose		se 10% or m <mark>ore</mark> (	of the vegetative	cover in each stre	nta; "*" designates
			Species	Strata	Pla	nt Species
			apple*			······································
			lora rose*			······································
	Shrub	Europ	pean buckthorn*			
	Shrub	privet	hedge*			·
	<u>Herb</u>	kidne	y-leaved violet*			
	Woody Vine	<u>Orien</u>	ital bittersweet*			, , , , , , , , , , , , , , , , , , ,
III.	Soil Survey Unit fine sandy loam Texture (upper part) >80" Depth to Water Table  Important Habitat Features (complete for all to the same part)				711 711 711	sheet & attach.
	Wildlife Food		ou the brossing 44			
	Important Wet	iand/Aquatic Foo	d Plants (smartw	reeds, pondweed	s, wild rice; buirus	sh, wild celery)
	☐ Abundant		Present			
	Important Upland/Wetland Food Plants (hard ma			ast and fruit/berry	y producers)	
	☐ Abundant		Present			
	Shrub thickets	or streambeds w	vith abundant ea	thworms (Americ	can woodcock)	
			Present	🖾 Absent		
	Shrub and/or h	nerbaceous vege	tation suitable fo	r veery nesting		
		m	Present	⊠ Absent		



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#### Wildlife Habitat Protection Guidance

#### Appendix B: Detailed Wildlife Habitat Evaluation Part 2. Field Data Form (continued) Number of trees (live or dead) > 30" DBH: Number (or density) of Standing Dead Trees (potential for cavities and perches): 6-12" dbh 18-24" dbh Number of Tree Cavities in trunks or limbs of: 6-12" diameter (e.g., tree swallow, saw whet owl, screech owl, bluebird, other songbirds) 12-18" diameter (e.g., hooded merganser, wood duck, common goldeneye, mink) >18" diameter (e.g., hooded merganser, wood duck, common goldeneye, common merganser, barred owl, mink, raccoon, fisher) Small mammal burrows ☐ Abundant Present Absent Cover/Perches/Basking/Denning/Nesting Habitat Dense herbaceous cover (voles, small mammals, amphibians & reptiles) Large woody debris on the ground (small mammals, mink, amphibians & reptiles) Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs) Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon) Rock piles, crevices, or hollow logs suitable for: otter ☐ mink porcupine bear bobcat turkey vulture Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings) Depressions that may serve as seasonal (vernal/autumnal) pools ☐ Present Standing water present at least part of the growing season, suitable for use by Breeding amphibians Non-breeding amphibians (foraging, re-hydration) Turtles ☐ Foraging waterfow! Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander) Present



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

Important habitat characte	ristics (if present, descri	be and quantify	them on a separate sheet)
Medium to large (> 6"), fla for spring & two-lined sala	t rocks within a stream (d manders)	cover for stream	salamanders and nesting habitat
	Present		
Flat rocks and logs on ban salamanders and nesting i	iks or within exposed por habitat for dusky salama	rtions of stream! nders)	beds (cover for stream
	Present		
Underwater banks of fine s	silt and/or clay (beaver, r	nuskrat, otter)	
	Present	Absent	
Undercut or overhanging b	anks (small mammals, r	nink, weasels)	
	☐ Present		
Vertical sandy banks (bank	swallow, kingfisher)		
	Present	Absent	
Areas of ice-free open water	er in winter		
	☐ Present		
Mud flats			
	☐ Present		
Exposed areas of well-drain	ned, sandy soil suitable t	or turtle nesting	ı
	☐ Present		
Wildlife dens/nests (if prese	ent, describe & quantify t	hem on the bac	k of this sheet)
Turtle nesting sites			
	☐ Present	Abşent     ■	
Bank swallow colony			
	☐ Present	Absent	
Nest(s) present of	☐ Bald Eagle	☐ Osprey	Great Blue Heron
Den(s) present of	Otter	☐ Mink	Beaver



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#### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

#### Part 2. Field Data Form (continued)

	Project area is within:		
	100' of beaver, mink or otter den, bank swallow	colony or turtle nesting area	
	200' of Great Blue Heron or osprey nest(s)		
	☐ 1400' of a Bald Eagle nest <sup>1</sup>		
	Emergent Wetlands (if present, describe & quantify	them on a separate sheet)	
	Emergent wetland vegetation at least seasonally flor green heron, black-crowned night heron, king rail, V		(wood duck,
	Flooded > 5 cm	☐ Present	
	Flooded > 25 cm (pied-billed grebe)	☐ Present	
	Persistent emergent wetland vegetation at least sea (mallard, American bittern, sora, common snipe, red	sonally flooded during the growin -winged blackbird, swamp sparro	ng season ow, marsh wren)
	Flooded > 5 cm	Present	Absent     ■
	Flooded > 25 cm (least bittern, common moorhen)	Present	Absent
	Cattail emergent wetland vegetation at least season	ally flooded during the growing s	eason
	Flooded > 5 cm (marsh wren)	☐ Present	Absent
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present	
	Fine-leafed emergent vegetation (grasses and sedg season (common snipe, spotted sandpiper, sedge w		uring the growing
	Flooded > 5 cm	Present	Absent
	Flooded > 25 cm (least bittern, common moorhen)	Present	Absent
IV.	Landscape Context		
A.	Habitat Continuity (if present, describe the landscalimportance for area-sensitive species)	pe context on a separate sheet	and its
	Is the impact area part of an emergent marsh at least	1.0 acre in size?   Yes	⊠ No
	(marsh and waterbirds)	2.0 acres in size?	⊠ No
		5.0 acres in size?	⊠ No
		10.0 acres in size?  Yes	⊠ No

<sup>1 1400</sup> feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet,



### Wildlife Habitat Protection Guidance

CARR RESEARCH LAB

Appendix B: Detailed Wildlife Habitat Evaluation

۲	art 2. Field Data Form (continued)			
	Is the impact area part of a wetland complex at least	2.5 acres in size?	☐ Yes	⊠ No
	(turtles, frogs, waterfowl, mammals)	5.0 acres in size?	☐ Yes	⊠ No
		10.0 acres in size?	☐ Yes	⊠ No
		25.0 acres in size?	☐ Yes	⊠ No
	For upland resource areas is the impact area part of	f contiguous forested	habitat at least	
	(forest interior nesting birds)	50 acres in size?	☐ Yes	⊠ No
		100 acres in size?	☐ Yes	⊠ No
		250 acres in size?	☐ Yes	⊠ No
		500 acres in size?	☐ Yes	⊠ No
	(grassland nesting birds)	> 1.0 acre in size?	☐ Yes	⊠ No
	(special habitat such as gallery floodplain forest, alder thicket, etc.)	> 1.0 acre in size?	☐ Yes	⊠ No
В.	Connectivity with adjoining natural habitats			
	No direct connections to adjacent areas of wildling	fe habitat (little conne	ectivity function)	
	Connectors numerous or impact area is embedd connectivity function)	led in a large area of	natural habitat (	limited
	Impact area contributes to a limited number of or important for connectivity function)	onnectors to adjacen	t areas of habita	it (somewhat
	impact area serves as part of a sole connector to connectivity function)	o adjacent areas of h	abitat (importan	t for
	Impact area serves as only connector to adjacer function)	it areas of habitat (ve	ery important for	connectivity
V.	Habitat Degradation (describe degradation and wild	llife impacts on the b	ack of the sheet	)
	Evidence of significant chemical contamination			
	⊠ Evidence of significant levels of dumping			
	Evidence of significant erosion or sedimentation	problems		
	Significant invasion of exotic plants (e.g., purple	loosestrife, <i>Phragmit</i>	es, glossy buckt	horn)
	☐ Disturbance from roads or highways	Other human dis	sturbance	
	Is the site the only resource area in the vicinity of	an otherwise develo	pped area	
	Note: These are not the only important habitat feature specialist identifies other features they should be note	es that may be obser		the wildlife



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### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
Large Woody Debris on Ground	1 rotting fallen log		no change
	·		
	-	,,	
Maria de la compansa			
***************************************			
		· · · · · · · · · · · · · · · · · · ·	-



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

١.	General Information						
	Carol Road at Brewster Drive, 2 New House	se Lots					
	Project Location (from NOI page 1)	, -					
	3. Wetland Below CRL-48 & 49						
	Impact Area (number/name)						
	9 October 2008						
	Date(s) of Site Visit(s) and Data Collection						
	Overcact, clearing skies, mid-60's						
	Weather Conditions During Site Visit (If snow cover, i	ndude depth)					
	Jerome Carr, PhD and Jamie Walker	14 October 2008					
	Person completing form per 310 CMR 10.60(1)(b)	Date this form was completed					
11.	Signature Signature	on my observations unless otherwise indicated  Classification - see Instructions for full description)					
A.	Classification	oddomozdon - see motractions for fail description)					
1.	For Wetland Resource Areas, complete the	e following:					
	System:	Subsystem:					
	Class:	Subclass:					
	Hydrology/Water Regime						
	Permanently flooded	Saturated					
	☐ Intermittently exposed	☐ Temporarily flooded					
	Semi-permanenth named	☐ Intermittently flooded					
4	Seasonally flooded	☐ Artificially flooded					
2.	nac a remeating dissallication system st	Flooding Resource Areas, complete the following. uch as one of the two listed below:					
	<ul> <li>a. "Classification of the Natural Communities of Kearsley, MA DFW NHESP, Westborough, I</li> </ul>	of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B. MA. July 2000. ( <u>Department of Fish &amp; Game Website</u> )					
	<ul> <li>b. "New England Wildlife: Habitat, Natural Hist Rudis, USDA Forest Service, Northeastern I August 1992. 491 pages.</li> </ul>	ory, and Distribution" by Richard M. DeGraaf and Deborah D. Forest Experiment Station. General Technical Report NE-108.					
	Community Name						
	Vegetation Description						
	Physical Description						



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### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation
Part 2. Field Data Form (continued)

	% Cover:	90 Trees (> 20')	35	D') 10 Woody vines	5	70
	Plant Lists (spe a dominant pla	ecies that com	prise 10% or mo	re of the vegetative co	Mosses ver in eac	Herbaceous h strata; "*" designates
	Strata	Pla	ant Species	Strata		Plant Species
	<u>Tree</u>	rec	d maple*	Herb		jewelweed
	Tree	<u>yel</u>	llow birch*	Herb		Canada goldrenrod
	Shrub	<u>hig</u>	nhbush blueberry	-1		
	Shrub	<u>m</u> u	iltiflora rose*			William .
	Shrub	arr	owwood			
	Herb	<u>cin</u>	namon fern			
	0" Depth to Water Tab Important Habi	) le itat Features (		- chai		ite sheet & attach.
	Wildlife Food					
	important Wetla	nd/Aquatic Fo	od Plants (smart	weeds, pondweeds, wi	ld rice, bu	Irush, wild celery)
	☐ Abundant		Present			• •
	Important Uplan	d/Wetland Foo	od Plants (hard m	nast and fruit/berry pro	ducers)	
l	☐ Abundant		Present	☐ Absent	·	
;	Shrub thickets o	r streambeds v	with abundant ea	irthworms (American w	(oodcock)	
			Present		•	
\$	Shrub and/or hei	rbaceous vege	etation suitable fo	or veery nesting		
			Present			



☐ Present

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### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation Part 2. Field Data Form (continued) Number of trees (live or dead) > 30" DBH: Number (or density) of Standing Dead Trees (potential for cavities and perches): Number of Tree Cavities in trunks or limbs of: 6-12" diameter (e.g., tree swallow, saw whet owl, screech owl, bluebird, other songbirds) 12-18" diameter (e.g., hooded merganser, wood duck, common goldeneye, mink) >18" diameter (e.g., hooded merganser, wood duck, common goldeneye, common merganser, barred owl, mink, raccoon, fisher) Small mammal burrows Abundant Present Absent
 ■ Absent
 Cover/Perches/Basking/Denning/Nesting Habitat Dense herbaceous cover (voles, small mammals, amphibians & reptiles) Large woody debris on the ground (small mammals, mink, amphibians & reptiles) Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs) Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon) Rock piles, crevices, or hollow logs suitable for: Otter mink 🔲 porcupine procuping ☐ bear bobcat turkey vulture Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings) Depressions that may serve as seasonal (vernal/autumnal) pools Present Absent Standing water present at least part of the growing season, suitable for use by ☐ Breeding amphibians ☐ Non-breeding amphibians (foraging, re-hydration) Turtles ☐ Foraging waterfowl Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)



### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

important habitat charact	eristics (if present, descr	ibe and quantify	them on a separate sheet)
Medium to large (> 6"), fla for spring & two-lined sala	at rocks within a stream (	cover for stream	n salamanders and nesting habitat
	Present		
Flat rocks and logs on bar salamanders and nesting	nks or within exposed po habitat for dusky salama	rtions of stream	beds (cover for stream
	☐ Present	Absent	
Underwater banks of fine	silt and/or clay (beaver, ı	muskrat, otter)	
	☐ Present		
Undercut or overhanging I	banks (small mammals, r	mink, weasels)	
	☐ Present		
Vertical sandy banks (ban	k swallow, kingfisher)		
	☐ Present		
Areas of ice-free open wat	ter in winter	•	
	☐ Present	⊠ Absent	
Mud flats			
	☐ Present		
Exposed areas of well-drai	ned, sandy soil suitable t	for turtle nesting	I
	☐ Present	Absent	
Wildlife dens/nests (if prese	ent, describe & quantify t	hem on the bac	k of this sheet)
Turtle nesting sites			
	☐ Present		
Bank swallow colony			
	☐ Present		
Nest(s) present of	☐ Bald Eagle	☐ Osprey	Great Blue Heron
Den(s) present of	☐ Otter	☐ Mink	☐ Beaver

IV. A.



# Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Рa	rt 2.	Field	Data	Form	(continued)	ì
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Project area is within:		
100' of beaver, mink or otter den, bank swalle	ow colony or turtle nesting area	
200' of Great Blue Heron or osprey nest(s)		
☐ 1400' of a Bald Eagle nest <sup>1</sup>		
Emergent Wetlands (if present, describe & quanti	fy them on a separate sheet)	
Emergent wetland vegetation at least seasonally green heron, black-crowned night heron, king rail,	flooded during the growing space	n (wood đuck,
Flooded > 5 cm	☐ Present	
Flooded > 25 cm (pied-billed grebe)	☐ Present	
Persistent emergent wetland vegetation at least somaliard, American bittern, sora, common snipe, r	easonally flooded during the grow ed-winged blackbird, swamp spar	
Flooded > 5 cm	☐ Present	
Flooded > 25 cm (least bittern, common moorhen)	) Present	
Cattail emergent wetland vegetation at least seaso	onally flooded during the growing	season
Flooded > 5 cm (marsh wren)	☐ Present	
Flooded > 25 cm (least bittern, common moorhen)	☐ Present	
Fine-leafed emergent vegetation (grasses and sec season (common snipe, spotted sandpiper, sedge	iges) at least seasonally flooded o	during the growing
Flooded > 5 cm	☐ Present	
Flooded > 25 cm (least bittern, common moorhen)	☐ Present	
Landscape Context		
Habitat Continuity (if present, describe the landso importance for area-sensitive species)	pape context on a separate sheet	and its
Is the impact area part of an emergent marsh at least	1.0 acre in size?   Yes	⊠ No
(marsh and waterbirds)	2.0 acres in size?   Yes	⊠ No
	5.0 acres in size?	⊠ No
	10.0 acres in size? 🔲 Yes	⊠ No

<sup>1 1400</sup> feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource detlhab.doc • 10/07



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

P	art 2. Field Data Form (continued)					
	Is the impact area part of a wetland complex at least	2.5 acres in size?	☐ Yes	⊠ No		
	(turtles, frogs, waterfowl, mammals)	5.0 acres in size?	Yes	⊠ No		
		10.0 acres in size?	☐ Yes	⊠ No		
		25.0 acres in size?	☐ Yes	⊠ No		
	For upland resource areas is the impact area part of	f contiguous forested	habitat at least			
	(forest interior nesting birds)	50 acres in size?	☐ Yes	⊠ No		
		100 acres in size?	☐ Yes	⊠ No		
		250 acres in size?	☐ Yes	⊠ No		
		500 acres in size?	☐ Yes	⊠ No		
	(grassland nesting birds)	> 1.0 acre in size?	☐ Yes	⊠ No		
	(special habitat such as gallery floodplain forest, alder thicket, etc.)	> 1.0 acre in size?	Yes	⊠ No		
₿.	Connectivity with adjoining natural habitats					
	☐ No direct connections to adjacent areas of wildli	fe habitat (little conne	ectivity function)			
	Connectors numerous or impact area is embedd connectivity function)	ded in a large area of	natural habitat	(limited		
	Impact area contributes to a limited number of c	onnectors to adjacen	t areas of habits	at (somewhat		
	important for connectivity function) Impact area serves as part of a sole connector to	o adjacent areas of h	ıabitat (importan	it for		
	connectivity function)  Impact area serves as only connector to adjacent areas of habitat (very important for connect function)					
٧.	Habitat Degradation (describe degradation and wild	dlife impacts on the b	ack of the shee	t)		
	Evidence of significant chemical contamination					
	Evidence of significant levels of dumping					
	☐ Evidence of significant erosion or sedimentation	problems				
	Significant invasion of exotic plants (e.g., purple loosestrife, Phragmites, glossy buckthorn)					
	☐ Disturbance from roads or highways	Other human dis	sturbance			
	ls the site the only resource area in the vicinity of	f an otherwise develo	oped area			
	Note: These are not the only important habitat features that may be observed on a site. If the wildlife specialist identifies other features they should be noted in the application.					



### Wildlife Habitat Protection Guidance

CARR RESEARCH LAB

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

#### VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
Important Upland/ Wetland Food Plants	2 highbush blueberry		No change
	//		<b>W</b>
	WASSALL		
***************************************			1
		***************************************	William Committee



Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

l.	General Information						
	Carol Road at Brewster Drive, 2 New Hou	se Lots					
	Project Location (from NOI page 1)						
	4. 50-25' Buffer Zone above CRL-48 & 49						
	Impact Area (number/name)						
	9 & 10 October 2008						
	Date(s) of Site Visit(s) and Data Collection						
	Overcast, clearing skies, mid-60's Weather Conditions During Site Visit (if snow cover,	industry death?					
	Jerome Carr PhD, and Jamie Walker	• •					
	Person completing form per 310 CMR 10.60(1)(b)	14 October 2008  Date this form was completed					
	, - , , , , , , , , , , , , , , , , , ,	·					
	I he information on this data sheet is base	d on my/pbsefvations unless otherwise indicated					
	June 13. Com	at Mall					
	Signature						
II.	Site Description (complete A or B unde	r Classification - see instructions for full description)					
A.	Classification						
1.	For Wetland Resource Areas, complete th	e following:					
		*					
	System:	Subsystem:					
	Class:	Subclass:					
	Hydrology/Water Regime						
	Permanently flooded	The Sturated					
	Intermittently exposed	mporarily flooded					
	☐ Semi-permanently flooded						
	The Seute-bermaneurly llooded in the second	The intermittently flooded					
	☐ Seasonally flooded	☐ Artificially flooded					
2.	For Riverfront or Bordering Land Subject to Use a terrestrial classification system to the state of the state	o Flooding Resource Areas, complete the following.					
	Use a terrestrial classification system such as one of the two listed below:  "Classification of the Natural Communities of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B.						
	Kearsley, MA DFW NHESP, Westborough	, MA. July 2000. (Department of Fish & Game Website)					
	<ul> <li>b. "New England Wildlife: Habitat, Natural His Rudis, USDA Forest Service, Northeastern August 1992. 491 pages.</li> </ul>	story, and Distribution" by Richard M. DeGraaf and Deborah D. n Forest Experiment Station. General Technical Report NE-108.					
	Community Name						
	Vegetation Description						
	Physical Description						



Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation Part 2. Field Data Form (continued)

	% Cover:	40 Trees (	5 20'\	90	40 Woody vines	0	·	60
	Plant Lists (species that comprise 10% or more a dominant plant species for the strata):		woody vines Mosses Herba of the vegetative cover in each strata; "*" des			Hemaceous "" designates		
	Strata Pl		Plant	Species	Strata	Strata		pecies
	Tree		Norw	ay spruçe*	Herb		bristly dewberry*	
	Tree		red m	naple				
	Shrub		crab a	apple*	<u> </u>		<del> </del>	
	Shrub		multif	lora rose*		PROFESSION		
	Woody Vine Orier		Orien	tal bittersweet*				
	Woody Vine	**********	fox gr	ape		· · · · · · · · · · · · · · · · · · ·		
Soil Survey Unit fine sandy loam Texture (upper part) >80" Depth to Water Table  III. Important Habitat Features (complete for all relationships) If the following habitat characteristics are present, descriptions.		,			attach.			
	Wildlife Food Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)							
		ana/Aqua				wild rice, bu	lrush, wild	i celery)
	☐ Abundant ☐ Present ☐ Absent							
	Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)							
	☐ Abundant ☐ Present ☐ Absent							
	Shrub thickets	Shrub thickets or streambeds with abundant earthworms (American woodcock)						
			□F	⊃resent				
	Shrub and/or he	erbaceous	s vegeta	tion suitable for	veery nesting			
			□ F	Present	⊠ Ahsant			



Bureau of Resource Protection - Wetlands Program

#### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation Part 2. Field Data Form (continued) Number of trees (live or dead) > 30" DBH: Number (or density) of Standing Dead Trees (potential for cavities and perches): 6-12" dbh > 24" doh Number of Tree Cavities in trunks or limbs of: 6-12" diameter (e.g., tree swallow, saw whet owl, screech owl, bluebird, other songbirds) 12-18" dlameter (e.g., hooded merganser, wood duck, common goldeneye, mink) >18" diarneter (e.g., hooded merganser, wood duck, common goldeneye, common merganser, barred owl, mink, raccoon, fisher) Small mammal burrows Abundant Present Absent Cover/Perches/Basking/Denning/Nesting Habitat Dense herbaceous cover (voles, small mammals, amphibians & reptiles) Large woody debris on the ground (small mammals, mink, amphibians & reptiles) Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs) Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon) Rock piles, crevices, or hollow logs suitable for: ☐ otter \_\_ mink porcupine ☐ bobcat bear turkey vulture Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings) Depressions that may serve as seasonal (vernal/autumnal) pools Present Standing water present at least part of the growing season, suitable for use by Breeding amphibians Non-breeding amphibians (foraging, re-hydration) ☐ Turtles Foraging waterfowl Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

Absent

Present



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

Important habitat characte	ristics (if present, descrit	be and quantify	them on a separate sheet)
	t rocks within a stream (c		salamanders and nesting habitat
	☐ Present		
Flat rocks and logs on bar salamanders and nesting i	iks or within exposed por habitat for dusky salamai	rtions of streamb	peds (cover for stream
	Present		
Underwater banks of fine s	silt and/or clay (beaver, n	nuskrat, otter)	
	☐ Present		
Undercut or overhanging b	anks (small mammals, n	nink, weasels)	
	☐ Present		
Vertical sandy banks (bank	swallow, kingfisher)		
	☐ Present		
Areas of ice-free open water	er in winter		
	☐ Present		
Mud flats			
	☐ Present		
Exposed areas of well-drain	ned, sandy soil suitable f	or turtle nesting	
	☐ Present	Absent	
Wildlife dens/nests (if prese	nt, describe & quantify the	nem on the back	of this sheet)
Turtle nesting sites			
4	☐ Present		
Bank swallow colony			
	☐ Present	Absent	
Nest(s) present of	☐ Bald Eagle	Osprey	☐ Great Blue Heron
Den(s) present of	☐ Otter	☐ Mink	☐ Beaver



Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

	Project area is within:				
	100' of beaver, mink or otter den, bank swallow	v colony or turtle nesting area			
	200' of Great Blue Heron or osprey nest(s)				
	1400' of a Bald Eagle nest <sup>1</sup>				
	Emergent Wetlands (if present, describe & quantify	them on a separate sheet)			
	Emergent wetland vegetation at least seasonally flo green heron, black-crowned night heron, king rall, \	oded during the growing season	(wood duck,		
	Flooded > 5 cm	☐ Present	⊠ Absent		
	Flooded > 25 cm (pied-billed grebe)	☐ Present			
	Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wre				
	Flooded > 5 cm	☐ Present			
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present	⊠ Absent		
Cattail emergent wetland vegetation at least seasonally flooded during the growing season					
	Flooded > 5 cm (marsh wren)	☐ Present			
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present			
	Fine-leafed emergent vegetation (grasses and sedg season (common snipe, spotted sandpiper, sedge w	es) at least seasonally flooded di vren)	uring the growing		
	Flooded > 5 cm	☐ Present			
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present			
IV.	Landscape Context				
A.	Habitat Continuity (if present, describe the landscalimportance for area-sensitive species)	pe context on a separate sheet a	and its		
	Is the impact area part of an emergent marsh at least	1.0 acre in size?	⊠ No		
	(marsh and waterbirds)	2.0 acres in size?   Yes	No		
		5.0 acres in size?	⊠ No		
		10.0 acres in size?  Yes	⊠ No		

<sup>1 1400</sup> feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet.

В.

V.



# Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

-						
۲	art 2. Field Data Form (continued)					
	Is the impact area part of a wetland complex at least	2.5 acres in size?		Yes	$\boxtimes$	No
	(turties, frogs, waterfowl, mammals)	5.0 acres in size?		Yes	$\boxtimes$	No
		10.0 acres in size?		Yes	×	No
		25.0 acres in size?		Yes	$\boxtimes$	No
	For upland resource areas is the impact area part of	of contiguous forested	hab	itat at least		
	(forest interior nesting birds)	50 acres in size?		Yes	$\boxtimes$	No
		100 acres in size?		Yes	図	No
		250 acres in size?		Yes	$\boxtimes$	No
		500 acres in size?		Yes	$\boxtimes$	No
	(grassland nesting birds)	> 1.0 acre in size?		Yes	$\boxtimes$	No
	(special habitat such as gallery floodplain forest, alder thicket, etc.)	> 1.0 acre in size?		Yes	$\boxtimes$	No
3.	Connectivity with adjoining natural habitats					
	☑ No direct connections to adjacent areas of wild!	ife habitat (little conne	ectivi	ity function)		
	Connectors numerous or impact area is embedding connectivity function)			•	imite	ed
	Impact area contributes to a limited number of c important for connectivity function)	connectors to adjacen	t are	as of habita	t (so	mewhat
	Impact area serves as part of a sole connector t connectivity function)	o adjacent areas of h	abita	at (important	for	
	Impact area serves as <i>only</i> connector to adjacel function)	nt areas of habitat (ve	ry in	nportant for	conr	nectivity
<b>/</b> .	Habitat Degradation (describe degradation and will	dlife impacts on the b	ack	of the sheet)	İ	
	Evidence of significant chemical contamination					
	Evidence of significant levels of dumping					
	☐ Evidence of significant erosion or sedimentation	problems				
	Significant invasion of exotic plants (e.g., purple loosestrife, Phragmites, glossy buckthorn)					
	☐ Disturbance from roads or highways	Other human dis				
	Is the site the only resource area in the vicinity o	f an otherwise develo	ped	area		
	Note: These are not the only important habitat featur specialist identifies other features they should be not	es that may be obser led in the application.	bsv	on a site. If t	he v	vildlife

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# Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

#### VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
			(entire site)
Important Upland/ Wetland food Plants	patch of fox grape		no change
Standing Dead Tree 6-12" dbh	1		no change
Tree Cavity 6-12" diameter	1		no change
74004 And 4			



#### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

l.	General Information						
	Carol Road at Brewster Drive, 2 New House Lots						
	Project Location (from NOI page 1)						
	5. Wetland Below CRL-71 to 73						
	Impact Area (number/name)						
	9 & 10 October 2008  Date(s) of Site Visit(s) and Data Collection						
	Overcast, clearing skies, mid 60's						
	Weather Conditions During Site Visit (if snow cover, inc	clude depth)					
	Jerome Carr, PhD and Jamie Walker	14 October 2008					
	Person completing form per 310 CMR 10.60(1)(b)	Date this form was completed					
	The information on this data sheet is based formation of this data sheet is based.	on my observations unless otherwise indicated					
IJ.	Site Description (complete A or B Under	Classification - see instructions for full description)					
۹.	Classification						
۱.	For Wetland Resource Areas, complete the	following:					
	System:	Subsystem:					
	Class:	Subclass:					
	Hydrology/Water Regime						
	Permanently flooded	☐ Saturated					
	☐ Intermittently exposed	☐ Temporally flooded					
	Semi-permanently flooded	Light tently flooded					
	☐ Seasonally flooded	Artificially flooded					
<u>)</u>	For Riverfront or Bordering Land Statistics Use a terrestrial classification system su	Flooding Transcreas, complete the following.					
	<ul> <li>a. "Classification of the Natural Communities of Kearsley, MA DFW NHESP, Westborough, N</li> </ul>	f Chusetts (Draft)" by Patricia C. Swain and Jennifer B.  Mill vely 2000. (Department of Fish & Game Website)					
	<ul> <li>b. "New England Wildlife: Habitat, Natural Historius, USDA Forest Service, Northeastern F August 1992, 491 pages.</li> </ul>	ory, and Distribution" by Richard M. DeGraaf and Deborah D. Forest Experiment Station. General Technical Report NE-108.					
	Community Name	W. = 110011000-					
	Vegetation Description						
	Physical Description						



Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

₿.	Inventory (Plant community)								
	% Cover:	40 Trees (> 20')	50 Shrubs (< 20')			0	***************************************	95	
	Plant Lists (spec a dominant plan	rrees (> 20') cles that comprise t species for the s	10% or more		ody vines egetative o	Mosses over in each	strata; "'	Herbaceous " designates	
	Strata Plan		pecies	Str	Strata		Plant Species		
	Tree	red maj	ole*	He	rb		Canada goldenrod		
	Shrub	<u>Europe</u>	an buckthorn	<del>*</del>			1 117 11 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
	Shrub	arroww	ood			b) Milesonese services			
	Woody Vine	Orienta	Bittersweet*	**1:,					
	Herb	Sensitiv	e Fern*					· · · · · · · · · · · · · · · · · · ·	
	Herb	Jewelw	eed						
÷.	C. Inventory (Soils)  Freetwon muck Soil Survey Unit muck Texture (upper part) O" Depth to Water Table		Dra	ry Poorly D inage Class 4" topsoil eth		Angeles de la companya de la company			
IJ.	Important Habit	tat Features (com	iplete for all	resourc	e areas)				
	If the following hat	oitat characteristics	are present, de	escribe & d	quantify then	n on a separa	ite sheet &	k attach.	
	Wildlife Food								
	Important Wetlar	nd/Aquatic Food F	Plants (smartv	veeds, po	ondweeds,	wild rice, bu	Irush, wil	d celery)	
	☐ Abundant	□ Pi	resent	$\boxtimes$	Absent				
	Important Upland	d/Wetland Food P	lants (hard m	ast and f	ruit/berry p	roducers)			
	Abundant	□ Pi	resent	$\boxtimes$	Absent				
	Shrub thickets or	r streambeds with	abundant ea	rthworms	s (Americar	nwoodcock)	ı		
		□ Pr	esent	$\boxtimes$	Absent				
	Shrub and/or her	rbaceous vegetation	on suitable fo	r veery r	esting				

☐ Present



Bureau of Resource Protection - Wetlands Program

#### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation Part 2. Field Data Form (continued) 0 Number of trees (live or dead) > 30" DBH: Number (or density) of Standing Dead Trees (potential for cavities and perches): 6-12" dbh > 24" dbh Number of Tree Cavities in trunks or limbs of: 6-12" diameter (e.g., tree swallow, saw what owl, screech owl, bluebird, other songbirds) 12-18" diameter (e.g., hooded merganser, wood duck, common goldeneye, mink) >18" diameter (e.g., hooded merganser, wood duck, common goldeneye, common merganser, barred owl, mink, raccoon, fisher) Small mammal burrows Present ☐ Abundant Absent
 Ab Cover/Perches/Basking/Denning/Nesting Habitat Dense herbaceous cover (voles, small mammals, amphibians & reptiles) Large woody debris on the ground (small mammals, mink, amphibians & reptiles) Rocks, crevices, logs, tree roots or hummocks under water's surface (turties, snakes, frogs) Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon) Rock piles, crevices, or hollow logs suitable for: \_\_\_ otter porcupine Dobcat bear turkey vulture Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings) Depressions that may serve as seasonal (vernal/autumnal) pools ☐ Present Standing water present at least part of the growing season, suitable for use by Breeding amphibians Non-breeding amphibians (foraging, re-hydration) Turtles Foraging waterfowl Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Present



### Wildlife Habitat Protection Guidance

CARR RESEARCH LAB

Appendix B: Detailed Wildlife Habitat Evaluation

Important habitat character	istics (if present, describ	e and quantify the	em on a separate sheet)		
Medium to large (> 6"), flat for spring & two-lined salar	rocks within a stream (comenders)	over for stream sa	alamanders and nesting habitat		
	☐ Present	⊠ Absent			
Flat rocks and logs on ban salamanders and nesting h	ks or within exposed port nabitat for dusky salamar	tions of streambe iders)	ds (cover for stream		
	☐ Present				
Underwater banks of fine s	silt and/or clay (beaver, m	nuskrat, otter)			
	☐ Present				
Undercut or overhanging banks (small mammals, mink, weasels)					
	☐ Present				
Vertical sandy banks (ban	k swallow, kingfisher)				
	☐ Present				
Areas of ice-free open water in winter					
	☐ Present	Absent			
Mud flats					
	☐ Present				
Exposed areas of well-dra	iined, sandy soil sultable	for turtle nesting			
	☐ Present				
Wildlife dens/nests (if pres	sent, describe & quantify	them on the back	of this sheet)		
Turtle nesting sites					
	☐ Present				
Bank swallow colony					
	☐ Present				
Nest(s) present of	☐ Bald Eagle	Osprey	☐ Great Blue Heron		
Den(s) present of	☐ Otter	☐ Mink	☐ Beaver		



#### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

	Project area is within:				
	100' of beaver, mink or otter den, bank swallow	colony or turtle nesting area			
	200' of Great Blue Heron or osprey nest(s)				
	☐ 1400' of a Bald Eagle nest <sup>1</sup>				
	Emergent Wetlands (if present, describe & quantify	them on a separate sheet)			
	Emergent wetland vegetation at least seasonally flogreen heron, black-crowned night heron, king rail, v	ooded during the growing season ( /irginia rail, coot, etc.)	(wood duck,		
	Flooded > 5 cm	☐ Present			
	Flooded > 25 cm (pied-billed grebe)	☐ Present			
Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wre					
	Flooded > 5 cm	☐ Present			
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present			
Cattail emergent wetland vegetation at least seasonally flooded during the growing season					
	Flooded > 5 cm (marsh wren)	☐ Present	Absent     ■    Absen		
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present			
	Fine-leafed emergent vegetation (grasses and sedg season (common snipe, spotted sandpiper, sedge w	res) at least seasonally flooded du vren)	ring the growing		
	Flooded > 5 cm	☐ Present			
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present			
ĮV,	Landscape Context				
Α.	Habitat Continuity (if present, describe the landsca importance for area-sensitive species)	ape context on a separate sheet a	nd its		
	Is the impact area part of an emergent marsh at least	1.0 acre in size?	⊠ No		
	(marsh and waterbirds)	2.0 acres in size?  Yes	⊠ No		
		5.0 acres in size?	⊠ No		
		10.0 acres In size?  Yes	⊠ No		

<sup>1400</sup> feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; if only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet. dethab.doc • 10/07



### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation
Part 2 Field Data Form (continued)

F	Part 2. Field Data Form (continued)							
	is the impact area part of a wetland complex at least	2.5 acres in size?		Yes	$\boxtimes$	No		
	(turtles, frogs, waterfowl, mammals)	5.0 acres in size?		Yes	$\boxtimes$	No		
		10.0 acres in size?		Yes	X	No		
		25.0 acres in size?		Yes	$\boxtimes$	No		
	For upland resource areas is the impact area part of	f contiguous forested	hab	itat at least				
	(forest interior nesting birds)	50 acres in size?		Yes	$\boxtimes$	No		
		100 acres in size?		Yes	$\boxtimes$	No		
		250 acres in size?		Yes	$\boxtimes$	No		
		500 acres in size?		Yes	$\boxtimes$	No		
	(grassland nesting birds)	> 1.0 acre in size?		Yes	×	No		
	(special habitat such as gallery floodplain forest, alder thicket, etc.)	> 1.0 acre in size?		Yes	$\boxtimes$	No		
В.	Connectivity with adjoining natural habitats							
	☐ No direct connections to adjacent areas of wildli	fe habitat (little conne	ectivi	ity function)				
	Connectors numerous or impact area is embedded connectivity function)	ded in a large area of	natu	ıral habitat (l	limit	ed		
	Impact area contributes to a limited number of c important for connectivity function)	connectors to adjacen	t are	as of habita	t (sc	mewhat		
	Impact area serves as part of a sole connector to	o adjacent areas of h	abita	at (important	for			
	connectivity function)  Impact area serves as only connector to adjacent areas of habitat (very important for connective function)					nectivity		
V.	Habitat Degradation (describe degradation and wild	dlife impacts on the b	ack	of the sheet	)			
	Evidence of significant chemical contamination							
	Evidence of significant levels of dumping							
	Evidence of significant erosion or sedimentation problems							
	Significant invasion of exotic plants (e.g., purple loosestrife, Phragmites, glossy buckthorn)					1)		
	☐ Disturbance from roads or highways ☐ Other human disturbance							
	ls the site the only resource area in the vicinity of	f an otherwise devel	ped	агеа				
	Note: These are not the only important habitat features that may be observed on a site, if the wildlife specialist identifies other features they should be noted in the application.							

12/02/2008 13:08

508-647-4737



#### Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands Program

### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

#### VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
Dense Herb Cover			no change
The state of the s			
	**************************************		
			TAXABLE DI CALLED CONTROL CONT
	***************************************		



#### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

ł.	General Information					
	Carol Road at Brewster Drive, 2 New House Lots					
	Project Location (from NOI page 1)					
	6, 50-25' Buffer Zone Above CRL-71 to 73					
	Impact Area (number/name) 9 & 10 October 2008	•				
	Date(s) of Site Visit(s) and Data Collection					
	Overcast, clearing skies, mid-60's					
	Weather Conditions During Site Visit (If snow cover, include dep	oth)				
	Jerome Carr, PhD, and Jamie Walker	14 October 2008				
	Person completing form per 310 CMR 10.60(1)(b)	Date this form was completed				
	The information on this data sheet is based on my	observations unless otherwise indicated				
	Signature					
11.	Site Description (complete A or Bunder Classif	ication - see instructions for full description)				
Α.	Classification					
1.	For Wetland Resource Areas, complete the following	ng:				
	System:	Subsystem:				
	Class:	Subclass:				
	Hydrology/Water Regime					
	☐ Permanently flooded	☐ Saturated				
	☐ Intermittently exactly	☐ Temporarily flooded				
	Semi-permanently flooded	☐ Intermittently flooded				
	Seasonally flooded	☐ Artificially flooded				
2.	For Riverfront or Bordering Land Subject to Floodir Use a terrestrial classification system such as a	ng Resource Areas, complete the following.  Done of the two listed below:				
	<ul> <li>a. "Classification of the Natural Communities of Massa Kearsley, MA DFW NHESP, Westborough, MA. Jul</li> </ul>	chusetts (Draft)" by Patricia C. Swain and Jennifer B. y 2000. ( <u>Department of Fish &amp; Game Website</u> )				
	<ul> <li>b. "New England Wildlife: Habitat, Natural History, and Rudis, USDA Forest Service, Northeastern Forest E August 1992. 491 pages.</li> </ul>	Distribution" by Richard M. DeGraaf and Deborah D. xperiment Station. General Technical Report NE-108.				
	Community Name					
	Vegetation Description					
	Physical Description					



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation Part 2. Field Data Form (continued)

	% Cover:	90	55 Shrubs (< 20')	10 Woody vines	0 Mosses	95
	Plant Lists (species that comprise 10% or more of a dominant plant species for the strata):		-			
	Strata Plant		Species	Strata		Plant Species
	Tree	<u>red ma</u>	aple*			
-	Tree	guakin	g aspen		<u></u>	
-	Shrub	Еигоре	ean buckthorn*	***************************************		
	Shrub	<u>multifle</u>	ora rose*			
_	Herb	Sensit	ive fern*	MARKE 148 1		
,	Woody Vine	Virgini	a creeper		<del> </del>	management to the state of the
; ; ; ;	Soll Survey Unit fine sandy loam Texture (upper part) About 18-36" Depth to Water Table Important Habit	at Features (co	mplete for all re			ate sheet & attach.
	Wildlife Food					
ı	mportant Wetlan	d/Aquatic Food	Plants (smartwee	eds, pondweeds,	wild rice, bu	ılrush, wild celery)
[	Abundant	☐ F	resent	Absent Absent		
١	mportant Upland	Wetland Food f	Plants (hard mas	t and fruit/berry p	roducers)	
I	Abundant	□ F	resent	Absent		
5	Shrub thickets or	streambeds with	n abundant earth	worms (Americar	ı woodcock	)
			Present			
5	Shrub and/or heri	baceous vegetal	ion suitable for v	eery nesting		
			<sup>1</sup> resent	Absent		



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation Part 2. Field Data Form (continued)

arrait ford batter to this (continued)						
Number of trees (live or dead) > 30" DBH:	0					
Number (or density) of Standing Dead Trees (po	tential for cavities	and perches):				
0 6-12" dbh 0 12-18" dbh	0	<u> </u>				
Number of Tree Cavities in trunks or limbs of:	18-24" dbn	> 24" dbh				
0						
6-12" diameter (e.g., tree swallow, saw whet owl, screech ov	d, bluebird, other songh	irds)				
0 12-18" diameter (e.g., hooded merganser, wood duck, comm	non coldensus, mick					
_						
O >18" diameter (e.g., hooded merganser, wood duck, common go	ldeneye, common merge	nser, barred owl, mink, raccoon, fisher)				
Small mammal burrows						
☐ Abundant ☐ Present						
Cover/Perches/Basking/Denning/Nesting Habitat	i					
Dense herbaceous cover (voies, small mami	mals, amphibians &	k reptiles)				
□ Large woody debris on the ground (small ma	ımmals, mink, amp	hibians & reptiles)				
Rocks, crevices, logs, tree roots or hummocl	ks under water's su	rface (turtles, snakes, frogs)				
Rocks, crevices, fallen logs, overhanging bra water's surface (turtles, snakes, frogs, wadin	inches or hummoc g birds, wood duck	ks at, or within 1m above the , mink, raccoon)				
Rock piles, crevices, or hollow logs suitable t		·				
otter mink parcuping	e 🔲 bear	☐ bobcat ☐ turkey vulture				
Live or dead standing vegetation overhangin osprey, kingfisher, flycatchers, cedar waxwin	g water or offering gs)	good visibility of open water (e.g.,				
Depressions that may serve as seasonal (vernal/	autumnal) pools					
☐ Present						
Standing water present at least part of the growing season, suitable for use by						
☐ Breeding amphibians	Non-breeding amp	hibians (foraging, re-hydration)				
☐ Turtles ☐	Foraging waterfow	1				
Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)						
☐ Present	⊠ Absent					



### Wildlife Habitat Protection Guidance

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Appendix B: Detailed Wildlife Habitat Evaluation

Important habitat charac	teristics (if present, des	cribe and quantify	them on a separate sheet)
Medium to large (> 6"), f for spring & two-lined sa	lat rocks within a strean lamanders)	1 (cover for stream	salamanders and nesting habita
	☐ Present		
Flat rocks and logs on ba salamanders and nesting	anks or within exposed g habitat for dusky salar	portions of streami manders)	beds (cover for stream
	☐ Present	. 🛛 Absent	•
Underwater banks of fine	silt and/or clay (beave	r, muskrat, otter)	
	☐ Present		
Undercut or overhanging	; banks (small mammals	s, mink, weasels)	
	☐ Present		
Vertical sandy banks (ba	nk swallow, kingfisher)		
	☐ Present		
Areas of ice-free open w	ater in winter		
	☐ Present		
Mud flats			
	☐ Present	Absent	
Exposed areas of well-dr	ained, sandy soil suitab	le for turtle nesting	I
	☐ Present	Absent	
Wildlife dens/nests (if pre	sent, describe & quanti	fy them on the bac	k of this sheet)
Turtle nesting sites			,
	Present		
Bank swallow colony			
	☐ Present	Absent     ■	
Nest(s) present of	☐ Bald Eagle	☐ Osprey	☐ Great Blue Heron
Den(s) present of	☐ Otter	☐ Mink	☐ Beaver



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### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

	Project area is within:		
	100' of beaver, mink or otter den, bank swallow	v colony or turtle nesting area	
	200' of Great Blue Heron or osprey nest(s)		
	☐ 1400' of a Bald Eagle nest <sup>1</sup>		
	Emergent Wetlands (if present, describe & quantify	them on a separate sheet)	
	Emergent wetland vegetation at least seasonally flo green heron, black-crowned night heron, king rail, \	coded during the growing season Virginia rail, coot, etc.)	(wood duck,
	Flooded > 5 cm	☐ Present	Absent     ■    Absen
	Flooded > 25 cm (pied-billed grebe)	☐ Present	
	Persistent emergent wetland vegetation at least sea (mallard, American bittern, sora, common snipe, rec	asonally flooded during the growind- d-winged blackbird, swamp sparro	ig season ow, marsh wren)
	Flooded > 5 cm	☐ Present	
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present	
	Cattail emergent wetland vegetation at least season	hally flooded during the growing s	eason
	Flooded > 5 cm (marsh wren)	☐ Present	⊠ Absent
	Flooded > 25 cm (least bittern, common moorhen)	☐ Present	Absent
	Fine-leafed emergent vegetation (grasses and sedg season (common snipe, spotted sandpiper, sedge v	ges) at least seasonally flooded du wren)	ring the growing
	Flooded > 5 cm	☐ Present	
	Flooded > 25 cm (least bittern, common moorhen)	Present	Absent
IV.	Landscape Context		
Α.	Habitat Continuity (if present, describe the landscalimportance for area-sensitive species)	ape context on a separate sheet a	ind its
	is the impact area part of an emergent marsh at least	1.0 acre in size?   Yes	⊠ No
	(marsh and waterbirds)	2.0 acres in size?  Yes	⊠ No
		5.0 acres in size?	⊠ No
		10.0 acres in size?  Yes	⊠ No

<sup>1 1400</sup> feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet.

| Detailed Widdlife Hebriot Fundament | Detailed Widdlife Hebriot Fundament | Detailed Widdlife | Detailed Widdlife | Detailed Widdlife | Detailed | De



### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation
Part 2. Field Data Form (continued)

	art z. Fleid Data Form (continued)					
	is the impact area part of a wetland complex at least	2.5 acres in size?		Yes	$\boxtimes$	No
	(turtles, frogs, waterfowl, mammals)	5.0 acres in size?		Yes	$\boxtimes$	No
	•	10.0 acres in size?		Yes	$\boxtimes$	No
		25.0 acres in size?		Yes	$\boxtimes$	No
	For upland resource areas is the impact area part or	f contiguous forested	hab	itat at least		
	(forest interior nesting birds)	50 acres in size?		Yes	$\boxtimes$	No
		100 acres in size?		Yes	$\boxtimes$	No
		250 acres in size?		Yes ·	$\boxtimes$	No
		500 acres in size?		Yes	$\boxtimes$	No
	(grassland nesting birds)	> 1.0 acre in size?		Yes	$\boxtimes$	No
	(special habitat such as gallery floodplain forest, alder thicket, etc.)	> 1.0 acre in size?		Yes	$\boxtimes$	No
В.	Connectivity with adjoining natural habitats					
	No direct connections to adjacent areas of wildir     in the property of the property	fe habitat (little conne	ectiv	ity function)		
	Connectors numerous or impact area is embedo connectivity function)	led in a large area of	nati	ural habitat (i	limit	ed
	Impact area contributes to a limited number of c important for connectivity function)	onnectors to adjacen	t are	as of habita	t (so	mewhat
	Impact area serves as part of a sole connector to adjacent areas of habitat (important for connectivity function)					
	Impact area serves as <i>only</i> connector to adjacer function)	nt areas of habitat (ve	ery in	nportant for	con	nectivity
V.	Habitat Degradation (describe degradation and wild	dlife impacts on the b	ack	of the sheet	)	
	Evidence of significant chemical contamination					
	Evidence of significant levels of dumping					
	Evidence of significant erosion or sedimentation	problems				
	Significant invasion of exotic plants (e.g., purple	loosestrife, Phragmit	es, ç	glossy buckt	horn	1)
	☐ Disturbance from roads or highways	Other human dis	sturt	ance		
	☐ Is the site the only resource area in the vicinity o	f an otherwise develo	ped	l area		
	Note: These are not the only important habitat featur specialist identifies other features they should be not	es that may be obser ed in the application.	rved	on a site. If	the •	wildlife



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### Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

#### VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
0690 (1009 0-12-00)			
Dense Herb Cover		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	no change
Large Woody Debris on Ground	2 fallen, rotting logs		no change
		:	
	100		77 - #700 <u></u>
***************************************			